

Listing of Claims:

1. (Previously Presented) A liquid crystal display device, comprising:

a liquid crystal panel having a plurality of gate and data lines and a plurality of sub-pixels, wherein the gate lines are arranged in a transverse direction and the data lines are arranged in a longitudinal direction, wherein sub-pixels are defined by the gate and data lines and correspond to red, green, blue and white color filters, respectively, wherein the color filters along the same data line have the same color, wherein adjacent ones of color filters along the same gate line have different colors, wherein the red, green, blue and white color filters constitute one pixel, and wherein a black matrix is arranged between each color filter;

a gate driver integrated circuit (IC) connected to the plural gate lines for driving the gate lines, the gate driver IC arranged on a first side portion of the liquid crystal panel; and

a data driver integrated circuit (IC) connected to the plural data lines for driving the data lines, the data driver IC arranged on a second side portion of the liquid crystal panel.
2. (Original) The device according to claim 1, wherein a stripe-shaped color filter having a white color is made of a transparent resin.
3. (Original) The device according to claim 1, wherein a stripe-shaped color filter having a white color is an open portion of the black matrix.
4. (Original) The device according to claim 1, wherein the gate driver IC alternates a polarity of a gate line driving signal for each of the gate lines at each frame interval.

5. (Original) The device according to claim 1, wherein the gate driver IC alternates polarities of gate line driving signals for adjacent gate lines during a same frame interval.
6. (Original) The device according to claim 1, wherein the data driver IC drives adjacent odd and even numbered data lines.
7. (Withdrawn) A method of fabricating a liquid crystal display device, comprising:
 - forming a plurality of gate and data lines on a first substrate;
 - forming a black matrix on a second substrate;
 - forming open portions for color filters by patterning the black matrix;
 - depositing a resin on the black matrix covering the open portions, wherein the resin has one of red, green, blue and white colors;
 - forming color filters in the open portions by photolithography, the color filters having a stripe shape;
 - forming a liquid crystal panel by combining the first and second substrates with interposed liquid crystal;
 - installing data driver integrated circuits (ICs) on one side portion of the liquid crystal panel, wherein the data driver ICs drive the plural data lines; and
 - installing gate driver integrated circuits (ICs) on one side portion of the liquid crystal panel, wherein the gate driver ICs drive the plural gate lines.
8. (Withdrawn) A method according to claim 7, wherein the stripe-shaped color filter having a white color is made of a transparent resin.

9. (Withdrawn) A method according to claim 7, wherein the stripe-shaped color filter having a white color is an open portion of the black matrix.

10. (Previously Presented) A liquid crystal display device, comprising:

a liquid crystal panel, comprising,

a first substrate having deposited thereon a plurality of color filters and a black matrix arranged between each of the color filters, wherein the color filters have red, green, blue and white colors, respectively, and wherein the red, green, blue and white color filters constitute one pixel;

a second substrate disposed opposing the first substrate and having a plurality of gate lines arranged in a transverse direction, a plurality of data lines arranged in a longitudinal direction, and a plurality of sub-pixels each formed at a crossing of one of the gate lines and data lines, and

a liquid crystal material deposited between the first and second substrates,

wherein each sub-pixel corresponds to one of the color filters, wherein color filters along the same data line have the same color, and wherein adjacent ones of color filters along the same gate line have different colors;

at least one gate driver integrated circuit (IC) connected to the gate lines for driving the gate lines, each gate driver IC disposed on a same side portion of the liquid crystal panel; and

at least one data driver integrated circuit (IC) connected to the data lines for driving the data lines, each data driver IC arranged on a same one of a top side portion and a bottom side portion of the liquid crystal panel.

11. (Original) The liquid crystal display device of claim 10, further comprising at least one tape carrier package connecting the at least one data driver IC to the liquid crystal panel.

12. (Original) The liquid crystal display device of claim 10, wherein each data driver IC drives adjacent odd and even numbered data lines.

13. (Original) The liquid crystal display device of claim 10, wherein each data line is connected to a plurality of sub-pixels each corresponding to one of the color filters having a same color.

14. (Original) The liquid crystal display device of claim 10, wherein each gate driver IC alternates a polarity of a driving signal for each of the gate lines at each frame interval.

15. (Original) The liquid crystal display device of claim 10, wherein each gate driver IC alternates a polarity of a driving signal for adjacent gate lines during a same frame interval.

16. (Withdrawn) A method of driving a liquid crystal panel, including a first substrate having deposited thereon a plurality of stripe-shaped color filters and a black matrix arranged around the stripe-shaped color filters, wherein each color filter has one of red, green, blue and

white colors, and including a second substrate disposed opposing the first substrate and having a plurality of gate lines arranged in a transverse direction, a plurality of data lines arranged in a longitudinal direction and a plurality of sub-pixels each formed at an intersection of one of the gate lines and data lines, and further including a liquid crystal material deposited between the first and second substrates, the method comprising:

driving the data lines, each data line driving sub-pixels corresponding to a same one of the red, green, blue or white colors;

driving the gate lines, alternating a polarity of a gate line driving signal for each of the gate lines at each frame interval.

17. (Withdrawn) The method of claim 16, further comprising alternating polarities of the gate line driving signals for adjacent gate lines during a same frame interval.

18. (New) A liquid crystal display device, comprising:

a liquid crystal panel having a plurality of gate and data lines and a plurality of sub-pixels, wherein the gate lines are arranged in a transverse direction and the data lines are arranged in a longitudinal direction, wherein each sub-pixel is defined by the gate and data lines and corresponds to a color filter having a predetermined color, wherein color filters along the same data line have the same color, wherein adjacent ones of color filters along the same gate line have different colors, and wherein a black matrix is arranged between each color filter;

a gate driver integrated circuit (IC) connected to the plural gate lines for driving the gate lines, the gate driver IC arranged on a first side portion of the liquid crystal panel; and

a data driver integrated circuit (IC) connected to the plural data lines for driving the data lines, the data driver IC arranged on a second side portion of the liquid crystal panel.

19. (New) The device according to claim 18, wherein a stripe-shaped color filter having a white color is made of a transparent resin.
20. (New) The device according to claim 18, wherein a stripe-shaped color filter having a white color is an open portion of the black matrix.
21. (New) The device according to claim 18, wherein the gate driver IC alternates a polarity of a gate line driving signal for each of the gate lines at each frame interval.
22. (New) The device according to claim 18, wherein the gate driver IC alternates polarities of gate line driving signals for adjacent gate lines during a same frame interval.
23. (New) The device according to claim 18, wherein the data driver IC drives adjacent odd and even numbered data lines.
24. (New) The device according to claim 18, wherein each sub-pixel corresponds to a color filter that has one of red, green, and blue colors.
25. (New) The device according to claim 18, wherein each sub-pixel corresponds to a color filter that has one of red, green, blue, and white colors.

26. (New) The device according to claim 25, wherein sub-pixels corresponding to color filters having red, green, blue, and white colors constitute one pixel.

27. (New) A liquid crystal display device, comprising:

a liquid crystal panel, comprising,

a first substrate having deposited thereon a plurality of color filters and a black mask arranged between each of the color filters,

a second substrate disposed opposing the first substrate and having a plurality of gate lines arranged in a transverse direction, a plurality of data lines arranged in a longitudinal direction, and a plurality of sub-pixels each formed at a crossing of one of the gate lines and data lines, and

a liquid crystal material deposited between the first and second substrates,

wherein each sub-pixel corresponds to one of the color filters, wherein color filters along the same data line have the same color, and wherein adjacent ones of color filters along the same gate line have different colors;

at least one gate driver integrated circuit (IC) connected to the gate lines for driving the gate lines, each gate driver IC disposed on a same side portion of the liquid crystal panel; and

at least one data driver integrated circuit (IC) connected to the data lines for driving the data lines, each data driver IC arranged on a same one of a top side portion and a bottom side portion of the liquid crystal panel.

28. (New) The liquid crystal display device of claim 27, further comprising at least one tape carrier package connecting the at least one data driver IC to the liquid crystal panel.

29. (New) The liquid crystal display device of claim 27, wherein each data driver IC drives adjacent odd and even numbered data lines.

30. (New) The liquid crystal display device of claim 27, wherein each data line is connected to a plurality of sub-pixels each corresponding to one of the color filters having a same color.

31. (New) The liquid crystal display device of claim 27, wherein each gate driver IC alternates a polarity of a driving signal for each of the gate lines at each frame interval.

32. (New) The liquid crystal display device of claim 27, wherein each gate driver IC alternates a polarity of a driving signal for adjacent gate lines during a same frame interval.

33. (New) The liquid crystal display device of claim 27, wherein each color filter has one of red, green, and blue colors.

34. (New) The liquid crystal display device of claim 27, wherein each color filter has one of red, green, blue, and white colors.

Application No.: 09/784,093

Docket No.: 8733.398.00

Supplemental Amendment dated February 9, 2004

Response to Office Action dated November 6, 2003

35. (New) The liquid crystal display device of claim 34, wherein sub-pixels corresponding to color filters having red, green, blue, and white colors constitute one pixel.